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Checklist

Soutpansberg Mountain: a spider hotspot in the Limpopo Province of South Africa (Arachnida, Araneae)

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Abstract

The Soutpansberg Mountain (SM) range in the northern part of the Limpopo Province within the Vhembe Biosphere Reserve, is a refuge for high diversity of organisms due to its geological history and location. As part of the South African National Survey of Arachnida (SANSA), the spider diversity of the Soutpansberg Mountain was determined over 27 years: 58 families, 293 genera, and 585 species were recorded. The Salticidae with 85 species, followed by Thomisidae (81 species), Araneidae, and Gnaphosidae, with 45 species each, are the most species-rich, while 11 families are represented by single species. Global distributions, endemicity, and conservation assessment are provided for each species using IUCN criteria. Most species (516, 88.1%) are widely distributed with no known threats and are of Least Concern, whereas eight species (1.4%) are of special concern. Of these, five species are Rare and one each is Critically Rare, Vulnerable, and Near Threatened. Twenty-five new species have been described from the SM since 1997, but 17 species (2.9%) are still Data Deficient, and 44 species were not evaluated due to unresolved taxonomy. The SM represents a spider biodiversity hotspot in the Limpopo Province, representing 25.4% of the total spider fauna of South Africa and 64.3% of the known spider fauna of the Limpopo Province.

Key words: Conservation biogeography, endemicity, faunistic surveys, global distribution, SANSA, Savanna biome, South African National Survey of Arachnida

Introduction

The emerging field of conservation biogeography concerns species' distribution dynamics and how they relate to biodiversity conservation (Robertson et al. 2010), and its main currency is valid species-level determinations and distribution data. Biodiversity is one of the most important concepts in contemporary biology and has many applications. In November 1995, South Africa ratified the Convention on Biological Diversity (CBD) and pledged to develop a strategic plan for biodiversity conservation and sustainable use. To meet the

requirements of the CBD, the SANSA was initiated in 1997 with the main aim of discovering, describing and making an inventory of the South African arachnid fauna (Dippenaar-Schoeman et al. 2015). The species distribution data collected since 1997 provided the essential foundational information necessary for the conservation assessments to compile a Red Data List of the Araneae of South Africa (Foord et al. 2020) and a published national checklist of 2265 species (Dippenaar-Schoeman et al. 2023).

The Limpopo Province covers 10.6% of South Africa, and more than 95% of the Limpopo Province falls within the Savanna Biome (Foord et al. 2011; Dippenaar-Schoeman et al. 2013a). The province is one of the more extensively sampled regions, and from the 286 sites sampled, 905 known spider species were documented (Dippenaar-Schoeman et al. 2023). The published records of some of the major surveys undertaken in the province are: Atherstone Game Reserve; Blouberg Nature Reserve (Muelelwa et al. 2010; Foord et al. 2019); Farm Amsterdam, Dendron District (Dippenaar-Schoeman et al. 1978); Farm Zandrivier, Lephalale; Ka-Ndengeza and Vyeboom Villages (Joseph et al. 2017; Foord et al. 2018); Lekgalameetse Nature Reserve (Foord et al. 2016); Little Leigh (Foord et al. 2013); Luvhondo Nature Reserve (Foord et al. 2002, 2008); Makelali Nature Reserve (Whitmore et al. 2001, 2002); Marakele National Park (Dippenaar-Schoeman et al. 2021); Nylsvley Nature Reserve (Dippenaar-Schoeman et al. 2009); Pietersburg Nature Reserve (Dippenaar et al. 2008); Rust de Winter cotton surveys (Dippenaar-Schoeman et al. 1999, 2013b); Sovenga Hill (Modiba et al. 2005); Syferkuil; Venetia Limpopo Nature Reserve; Vhembe Biosphere Reserve (Schoeman and Foord 2021); Western Soutpansberg Transect (WST) (Munyai and Foord 2012a; Foord et al. 2013, 2022) and Waterberg Biosphere (Foord 2023). The province is characterized by a complex mosaic of habitats, and the 55 endemic spider species so far recorded indicate a high degree of endemism (Dippenaar-Schoeman et al. 2023).

The Soutpansberg is the northernmost mountain range in South Africa, situated in the northern part of the Limpopo Province and within the Vhembe Biosphere Reserve and Savanna Biome. It is one of the oldest mountain ranges in southern Africa, and it is assumed that this geomorphological feature was created by faulting that occurred about 150 Ma ago (Haddon and McCarthy 2005), and that during the last ± 60 Ma, erosion formed the landscape as we see it today. Due to its age the Soutpansberg harbours spider species that belong to ancient evolutionary lineages (Jocqué 2008; Haddad 2009; Jocqué et al. 2013; Jocqué and Henrard 2015). This ancient mountain range is influenced by diverse biogeographical elements and contemporary drivers of change (Hahn 2011). Its geological history and location constitute a refuge for a high diversity of organisms. It is a major centre of plant endemism and biodiversity and has the highest plant generic and family-level diversity among the 18 Centres of Plant Endemism in southern Africa (Van Wyk and Smith 2001).

The research findings on spiders in the SM is presented herein, providing a measure of what has been achieved and identifies directions for future research. The annotated checklist consolidates all the data on spider species sampled and described from the SM. It provides information on the global distribution, endemicity, and conservation status for all 585 species and highlights species of special concern and those that are data deficient. Lastly, we comment on the significance of the SM as a biodiversity hotspot in the Limpopo Province within a national context.

Material and methods

Study area

The SM range stretches about 210 km eastward and forms a geographic unit with the Makgabeng Plateau, Blouberg Mountain to the west and the Waterberg to the south. The Western Soutpansberg (WSM), stretching from Wyllie's Poort to the town of Vivo about 70 km west, is the most intensive sampled region of the mountain (Fig. 1). The SM incorporates the mountain massif proper and includes a 25 km boundary stretching into the surrounding flat lands (Foord et al. 2002) (Fig. 2). The Soutpansberg's upper southern slopes are characterised by a more temperate climate, being strongly influenced by orographic cloud precipitation, whereas the northern slopes are much drier and hotter (Hahn 2006; Mostert et al. 2008). The highest peak of the SM is Lajuma (23°02'S, 29°26'E) at 1747 m a.s.l. Spider data was sampled from sixteen survey sites, and one transect on the SM (Fig. 1, Table 1).

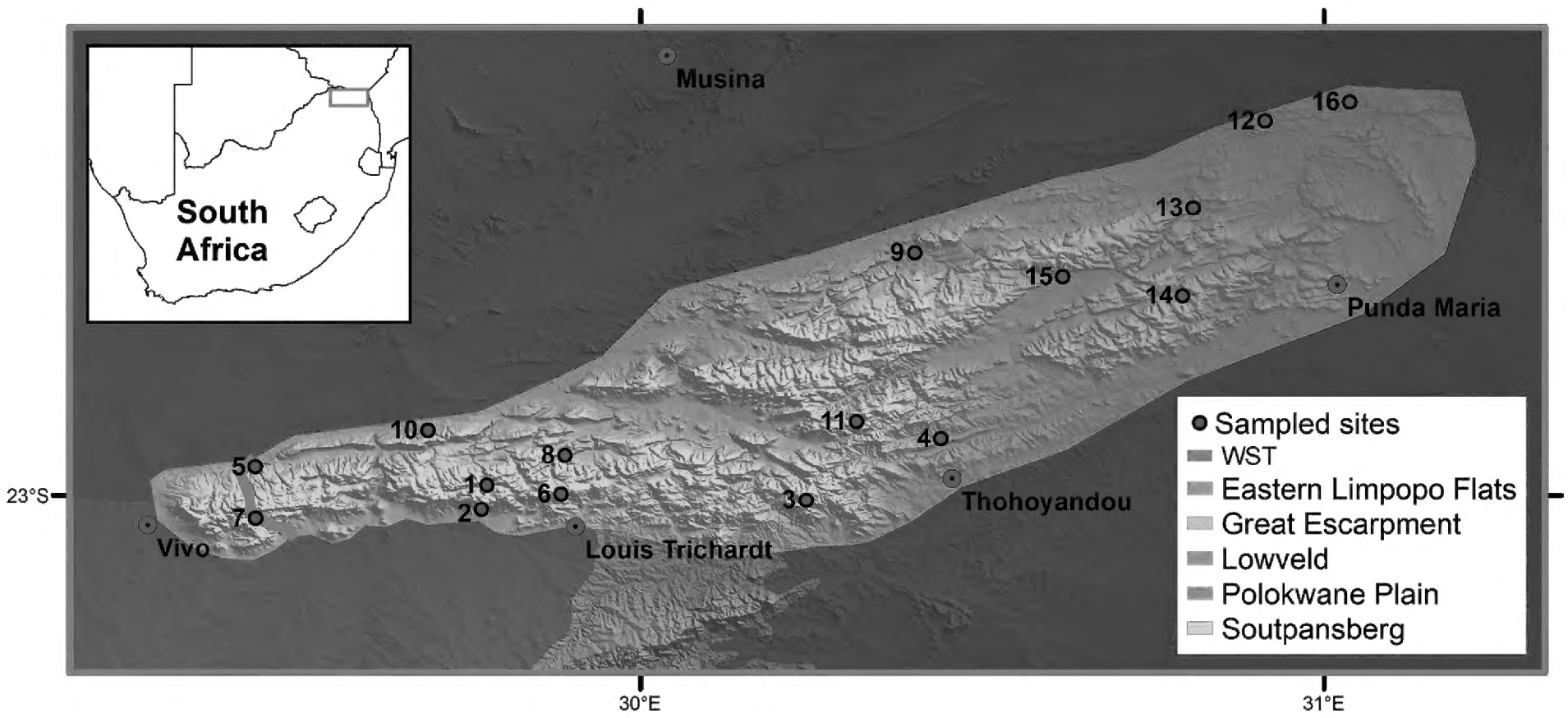


Figure 1. Map of Soutpansberg Mountain (SM), showing the 16 sites (1–16) and Western Soutpansberg Transect (WST, red band) sampled under the supervision of Prof S. Foord, students and collaborators.

Figure 2. University of Venda students sampling spiders on the middle plateau of the Soutpansberg Mountain (SM).

Table 1. Sites sampled on the Soutpansberg Mountain (SM) with the number of spider specimens collected. * Denotes sites sampled during the Vhembe Biosphere Survey (see Fig. 1).

Sites on soutpansberg	Coordinates	No spider specimens sampled
1. Bluegumspoort (farm) *	-22.965, 29.894	31
2. Buzzard Mountain *	-23.003, 29.770	52
3. Entabeni State Forest *	-23.018, 30.243	266
4. Gondeni (Communal land) *	-22.913, 30.064	72
5. Goro Game Reserve *	-22.939, 29.428	662
6. Hanglip State Forest *	-22.998, 29.886	62
7. Lajuma (part of Lhuvhondo Nat. Res.) *	-23.038, 29.441	1759
8. Little Leigh (farm, now Morningsun)	-22.934, 29.894	1072
9. Nwanedi Game Reserve *	-22.644, 30.370	64
10. Rochdale (farm). Waterpoort	-22.533, 29.417	72
11. Thathe Vondo State Forest *	-22.876, 30.323	11
12. Tshikondeni area	-22.451, 30.913	227
13. Tshulu River Research Camp	-22.579, 30.809	170
14. Vhurivhuri	-22.707, 30.793	310
15. Vhuvha (Communal land)	-22.679, 30.617	14
16. Wallers Camp	-22.424, 31.037	142
Red band-Western Soutpansberg Transect (WST) (11 sites)		10541
		15527

Collecting methods

The SM spiders were sampled over 27 years from 27 sites using different collecting methods. For the SANSA surveys, a standardised rapid sampling protocol was followed, sampling ground-dwelling spiders with pitfall traps, leaf litter sifting, and active searching at the base of grass tussocks and under rocks. Plant-dwelling species were collected by beating, sweeping, actively searching on vegetation and flowers, and tree fogging (Haddad and Dippenaar-Schoeman 2015).

During the 6-year long-term surveys in the WS, spiders were sampled twice a year during the hot-dry and hot-wet seasons in 11 elevational zones spaced at 200 m altitudinal distances. Sampling within a zone consisted of four replicates at least 300 m apart. Replicates contained ten pitfall traps in a 10 × 50 grid. Traps were left open for five days (Foord et al. 2022). Voucher specimens sampled from the SM are housed at the National Collection of Arachnida (NCA) at the Agricultural Research Council (ARC) in Pretoria, South Africa.

Source of information

Information on spider diversity for the SM was obtained from different datasets. Data was extracted from taxonomic (66) and faunistic (8) published papers and primary specimens' data housed in natural history museums gathered by visiting scientists.

The following national and international projects were involved.

1. The SANSA project (1997 to 2023) involved the ARC and the South African National Biodiversity Institute (SANBI), Threatened Species Programme phase 2, which received funding in 2006 through the Royal Norwegian Ministry for surveys to obtain data to produce a Red List of South African spiders.

2. In 2008, Dr Rudy Jocqué of the African Museum in Belgium and twelve researchers from Africa, Belgium, Germany, South America, Switzerland and the United States of America were funded through the international PBI-Oonopidae project to visit the SM over ten days. The group conducted tree fogging in Afro-montane high forests and closed woodlands, using it as a collecting method for the family Oonopidae.
3. Prof S. Foord received funding and logistic support from the Department of Science & Technology (DST) – National Research Foundation (NRF) and through the Centre of Excellence for Invasion Biology for long-term surveys (2009–2015).
4. Prof S. Foord received further funding from the South African Research Chairs Initiative (SARChI) on Biodiversity Value and Change in the Vhembe Biosphere Reserve, which was hosted and supported by the University of Venda to further support the various additional surveys from 2016 onwards.

Soutpansberg Mountain surveys

Surveys by the universities of Ghent, Pretoria and Venda were undertaken to address research projects by students and collaborators. During the first surveys (1996–2002) hand collection, sweeping, beating, and pitfall traps were used to produce the first checklist of the SM, listing 46 families and 127 species (Foord et al. 2002). This was followed in 2004–2005 by a study on fine-scale variation in spider assemblages in five representative vegetation types. The vegetation types were assessed in terms of spider family and species present, as well as levels of endemicity and differences related to vegetation structure. The results suggest that endemic spider taxa are more associated with tall forest and to a lesser extent, woodland (Foord et al. 2008).

In November–December (2005) and late summer March (2006), surveys were conducted on the Blouberg Nature Reserve and Little Leigh in the SM to try to develop standardised and optimised methods for rapid biodiversity assessments (Muelelwa et al. 2010). Results showed that collector experience did not affect the inventory results, whereas the time of day when sampling took place had a very small yet significant effect. Seasonality only affected abundance and richness but not assemblage composition.

Several factors affect the inclusion of spiders in conservation planning initiatives, and surrogates could help their incorporation. Including spiders in biodiversity inventories is desirable, but the demand for time and resources is immense. Foord et al. (2013) tested the performance of several surrogate measures, such as using higher taxa (genus, family), cross-taxon surrogates that are subsets of the spider assemblages (only certain spider families) or non-overlapping groups (woody vegetation and birds) and the use of morphospecies. The results show that using morphospecies as estimators cautiously supported species richness estimates.

A very important contribution to our knowledge of spiders of the SM were the long-term transect surveys, funded by the DST-NRF Centre for Invasion Biology at the University of Stellenbosch, to investigate the possible effect of climate change on spiders. The first transect survey was undertaken in the Cederberg Mountains in the Western Cape (Foord and Dippenaar-Schoeman 2016). The second transect survey in the WSM began in 2006. The initial transect was laid

out by Prof N. Hahn in an approximate north-south orientation (Fig. 1) across one of the narrowest sections of the WSM just below its highest point, Lajuma. The transect comprised nine sampling sites spaced at every 200 m contour interval over a distance of 17.4 km. The transect was subsequently expanded to incorporate four replicates at each site as part of Dr C. Munyai's MSc and PhD studies (2009–2015). Two additional sampling sites were added, and pitfall traps were used to sample twice a year during this period onwards. The altitudinal transect represents a gradient from open grassy habitats to woodland, shrubland, sedgeland, forest and thicket. These transect surveys provided the most cost-effective and succinct picture of the response of organisms and biotic assemblages to global climate change in the tropics and subtropics (Munya and Foord 2012a, b; Munyai and Foord 2015; Foord and Dippenaar-Schoeman 2016).

Between 2012–2013, Dr C. Schoeman studied the beta diversity and turnover of beetles and spiders using pitfall traps across five longitudinal transects in the Vhembe Biosphere Reserve, representing the different vegetation units in the region. Eleven Vhembe sites (indicated in Table 1 with an asterisk) sampled were from the SM (Table 1, Fig. 1) (Schoeman and Foord 2021).

Identification and voucher specimens

Assessing the SM's spider diversity was particularly challenging because of the large number of specimens sampled (>15 500) and the large number of species (585) identified. Only 44 species that were immature, new, or with unresolved taxonomy could not be determined to species level. One of the constraints for spider surveys is the lack of good taxonomic revisions for many of the larger spider families in Africa. No revisions or keys are available, making species-level identification time-consuming and difficult.

To address the taxonomic constraints, the 72 online photo identification guides for the South African spider families were used. The SANSA guides contain known information on all the genera and species listed in South Africa. Species-level information includes distribution maps for species, drawings and photographs of diagnostic morphological characteristics, notes on their behaviour, a conservation assessment and possible threats. Complete guides can be downloaded from the World Spider Catalog (http://wsc.nmbe.ch, doi: 10.24436/2) as well as from Zenodo https://zenodo.org/communities/sansa/). The availability of a large number of specimens taken over different seasons resulted in most of the species being identified from both adult and immature specimens.

All the material sampled was sorted, identified and databased by the first author (Prof A. Dippenaar-Schoeman). The identification of Corinnidae, Salticidae and Trachelidae was done by Prof C.R. Haddad (Department of Entomology and Zoology, University of the Free State, South Africa). The voucher specimens are housed at the NCA in Pretoria.

Endemicity

The endemicity index (END) was provided for each species. It was calculated based on the global distribution of a species and included six endemicity categories, ranging from **6**: species known only from the type locality (SM); **5**: species known from several localities in the Limpopo Province; **4**: species sam-

pled from two adjacent provinces; **3**: species sampled from ≥ three provinces in South Africa; **2**: species occur outside South Africa, but within southern Africa; **1**: species found throughout the Afrotropical Region; **0**: species occur beyond the Afrotropical Region and generally include widespread cosmopolitan species. The terms used are **SAE**: species endemic to South Africa; **STHE**: species endemic to southern Africa; **AE**: species endemic to the Afrotropical Region; and **C**: species that also occur beyond the Afrotropical Region.

Conservation assessment

As part of the Red Listing Spider project, the preliminary conservation status of all South African spider species was determined using the International Union for Conservation of Nature and Natural Resources (IUCN) criteria (Foord et al. 2020). The immature and possibly new species collected that could not be identified to species level using current taxonomic literature were not evaluated (**NE**). Preliminary conservation status of species as determined are listed with the following codes: **DD** (Data Deficient): species usually known from only one sex or based on old material without detailed locality data and where the species is difficult to identify; **LC** (Least Concern): species with a broad distribution (categories 0–2), without known threats; those of categories 3 and 4 are South African endemics (SAE) and many of them are also LC. Species of special concern (Rare, Critically Rare, Vulnerable and Threatened) usually belong to categories 5 or 6.

Results and discussion

Family diversity

In compiling the checklist, approximately 15 527 records from 27 sites were available from SM until the end of 2023 and 58 families, 293 genera and 585 species were recorded. The Salticidae (85 spp.), Thomisidae (81 spp.), Araneidae (45 spp.) and Gnaphosidae (45 spp.) were the most species-rich families, and 11 families are only represented by a single species (Table 2). Results from surveys in the Limpopo Province show that the same four spider families consistently dominate species richness (Foord et al. 2011; Haddad et al. 2013). Although South Africa has the richest described spider fauna on the African continent (Dippenaar-Schoeman et al. 2023), many families have never been subjected to revision and continue to present a considerable identification challenge to taxonomists. During this study, families with large proportions of undescribed species include the Agelenidae, Araneidae, Cyrtaucheniidae, Theridiidae and Trachelidae. Representatives of some of the ground and plant-hunting spider species of the Soutpansberg are provided in Figs 3–17 and some of the web-building spider species in Figs 18–32.

Salticidae

The Salticidae are free-living spiders that live on tree trunks, soil, rocks, and vegetation. They build small silk nests attached to various substrates to moult, oviposit, and sometimes to mate or occupy when inactive (Dippenaar-Schoeman 2023). The 85 salticid species from SM represent 14.5% of the total fauna (Table 2). The genus *Thyene* Simon, 1885 is one of the most species-rich genera in the SM, with

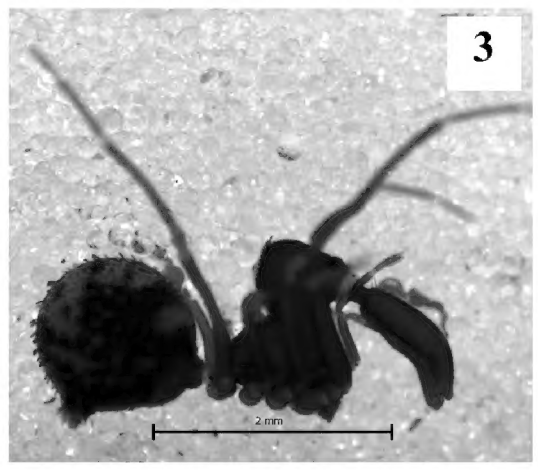
Table 2. Spider diversity of the Soutpansberg Mountain (SM) with families and their total number of genera (GEN) and species (SPP.) sampled.

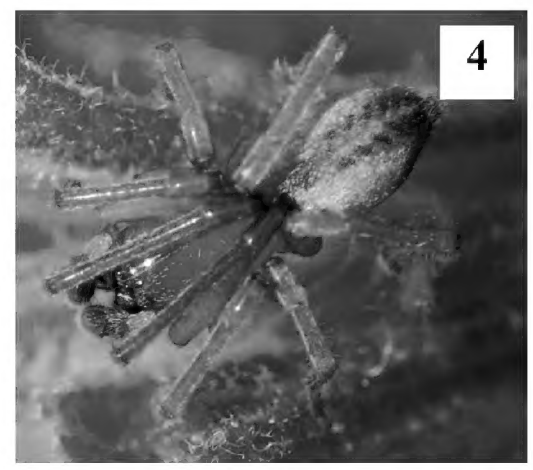
Family	GEN	SPP.	%	Family	GEN	SPP.	%
Agelenidae	4	9	1.7	Mimetidae	3	3	0.5
Anapidae	1	1	0.2	Nesticidae	1	1	0.2
Araneidae	22	45	7.7	Oecobiidae	2	2	0.3
Archaeidae	1	2	0.3	Oonopidae	3	4	0.7
Barychelidae	2	2	0.4	Orsolobidae	2	2	0.3
Bemmeridae	1	1	0.2	Oxyopidae	3	21	3.6
Caponiidae	1	1	0.2	Palpimanidae	2	5	0.9
Cheiracanthiidae	2	14	2.4	Penestomidae	1	1	0.2
Clubionidae	1	8	1.5	Philodromidae	6	16	2.7
Corinnidae	11	14	2.4	Pholcidae	3	7	1.2
Ctenidae	2	4	0.7	Phyxelididae	3	3	0.5
Cyatholipidae	1	2	0.3	Pisauridae	9	11	1.9
Cyrtaucheniidae	1	5	0.9	Prodidomidae	4	7	1.2
Deinopidae	2	2	0.3	Salticidae	43	85	14.5
Dictynidae	3	3	0.5	Scytodidae	1	4	0.7
Entypesidae	1	2	0.3	Segestriidae	1	1	0.2
Eresidae	4	7	1.2	Selenopidae	2	9	1.5
Euagridae	1	1	0.2	Sicariidae	2	3	0.5
Filistatidae	1	1	0.2	Sparassidae	4	8	1.4
Gallieniellidae	2	2	0.3	Stasimopidae	1	1	0.2
Gnaphosidae	18	45	7.7	Tetragnathidae	5	14	2.4
Hahniidae	1	1	0.2	Theraphosidae	5	6	1.0
Hersiliidae	2	4	0.7	Theridiidae	20	28	4.8
Idiopidae	4	4	0.7	Thomisidae	22	81	13.8
Linyphiidae	6	7	1.2	Trachelidae	10	14	2.4
Liocranidae	1	2	0.3	Trochanteriidae	1	3	0.5
Lycosidae	13	20	3.4	Uloboridae	4	5	0.9
Macrobunidae	3	3	0.5	Zodariidae	15	25	4.3
Migidae	2	2	0.3	Zoropsidae	1	1	0.2
				58 families	**293**	**585**	**100**

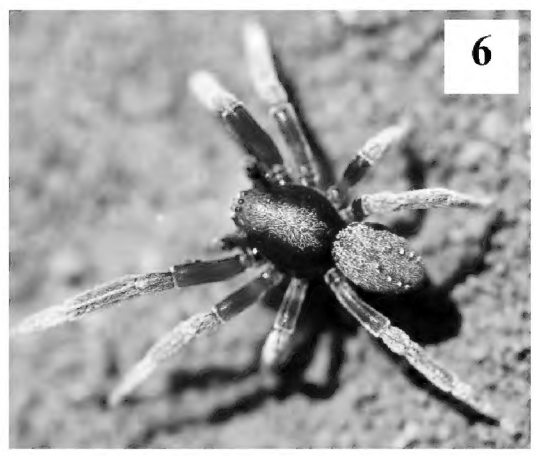
11 species. Almost half of the species (49.4%) are African endemics, 28.2% are southern African endemics, and three species are known more widely than Africa (Table 6). Three species were recently described from SM: *Phintella lajuma* Haddad & Wesołowska, 2013 (Fig. 14), *Rumburak tuberatus* Wesołowska, Azarkina & Russell-Smith, 2014 (Fig. 15) and *Tomomingi szutsi* Wesołowska & Haddad, 2013. Two salticid species were undetermined, but the *Langelurillus* species was identified as new and is awaiting taxonomic description.

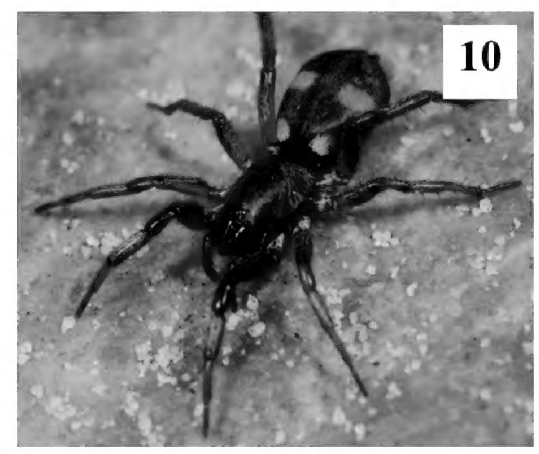
Thomisidae

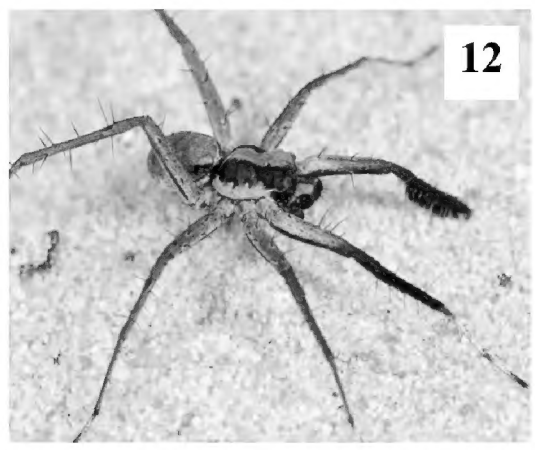
The thomisids are free-living spiders commonly found on grass, shrubs, flowers and trees, with only a few species occurring on the soil surface (Dippenaar-Schoeman 2023). The 81 species recorded from the SM represent 13.8% of the total fauna (Table 2), and *Thomisus* Walckenaer, 1805 (9 spp.) is the most species-rich genus. Wind easily disperses juvenile thomisids, and most species have a wide distribution. Fifty-eight species (71.6%) are African endemics, 17.3% are southern African endemics, and five species are known more widely than Africa. Only four species are South African endemics (Table 6). Although

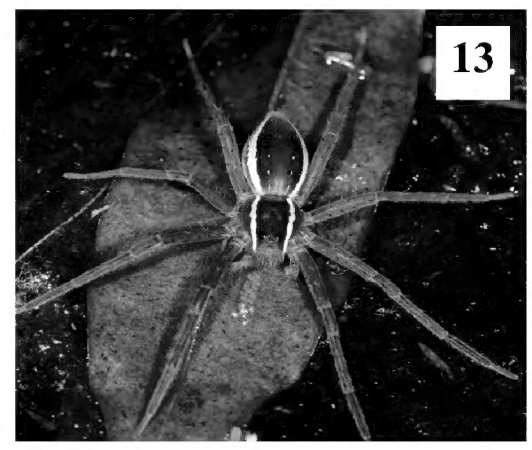


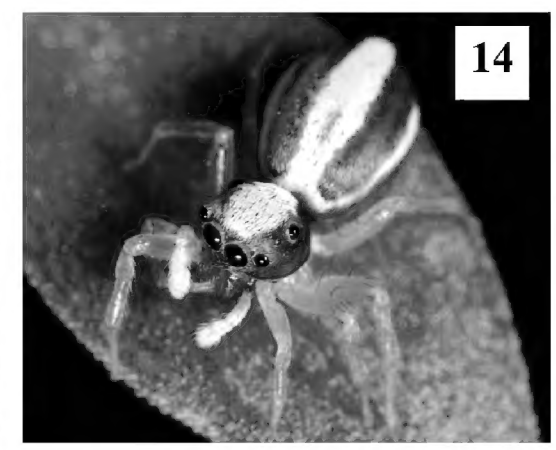


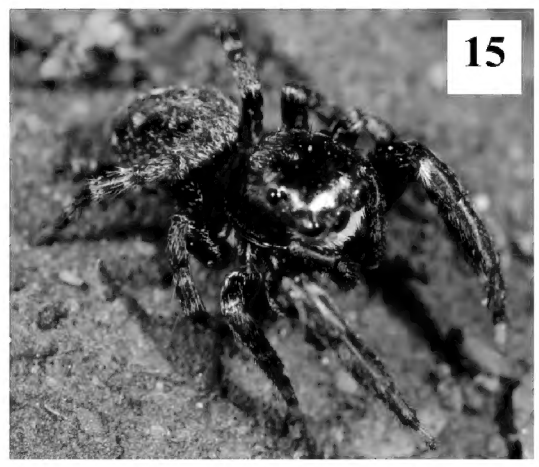


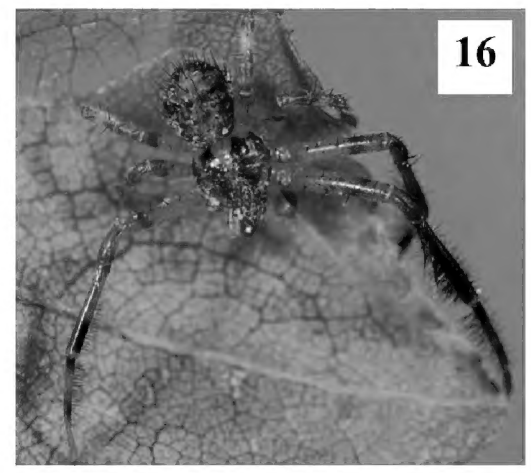


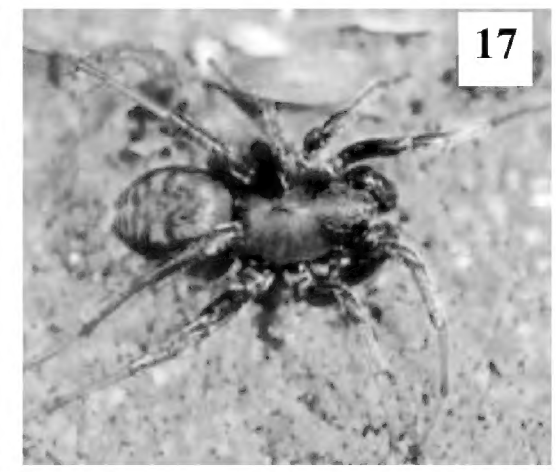












Figures 3–17. Representative hunting spiders of the Soutpansberg Mountain **3** *Afrarchaea entabeniensis* (Archaeidae) **4** *Cheiramiona lajuma* (Cheiracanthiidae) **5** *Hortipes contubernalis* (Corinnidae) **6** *Vendaphaea lajuma* (Corinnidae) **7** *Afropesa schoutedeni* (Entypesidae) **8** *Drassodella venda* (Gallieniellidae) **9** *Asemesthes ceresicola* (Gnaphosidae) **10** *Ibala arcus* (Gnaphosidae) **11** Tyrotama *soutpansbergensis* (Hersiliidae) **12** *Evippomma squamulatum* (Lycosidae) **13** *Nilus massajae* (Pisauridae) **14** *Phintella lajuma* (Salticidae) **15** *Rumburak tuberatus* (Salticidae) **16** *Heriaeus crassispinus* (Thomisidae) **17** *Cydrela schoemanae* (Zodariidae). Photo credits: **3** L. Lotz **6** C. Haddad **4, 5, 7–17** P. Webb.

no thomisids species have been newly described from SM, specimens were included in several generic revisions, e.g. *Heriaeus crassispinus* Lawrence, 1942 (Fig. 16), *Mystaria savannensis* Lewis & Dippenaar-Schoeman, 2014 and *Syllingma ndumi* Honiball & Dippenaar-Schoeman, 2011.

Araneidae

The Araneidae are web-dwellers and produce typical or modified orb-webs; 45 species are known from SM, which represents 7.7% of the total spider fauna (Table 2). The taxonomy of many genera in Africa is still unresolved, and six of the 45 species were not assessed for IUCN due to a lack of taxonomic resolution. The family is diverse, and 22 genera have been sampled. The species have a wide distribution, and 21 species (46.6%) are African endemics, 15.5% are southern African endemics, and eight species are known more widely than Africa. Only three species, *Nemoscolus elongatus* Lawrence, 1947, *Singa albodorsata* Kauri, 1950 and *Ursa turbinata* Simon, 1895 are South African endemics (Table 6).

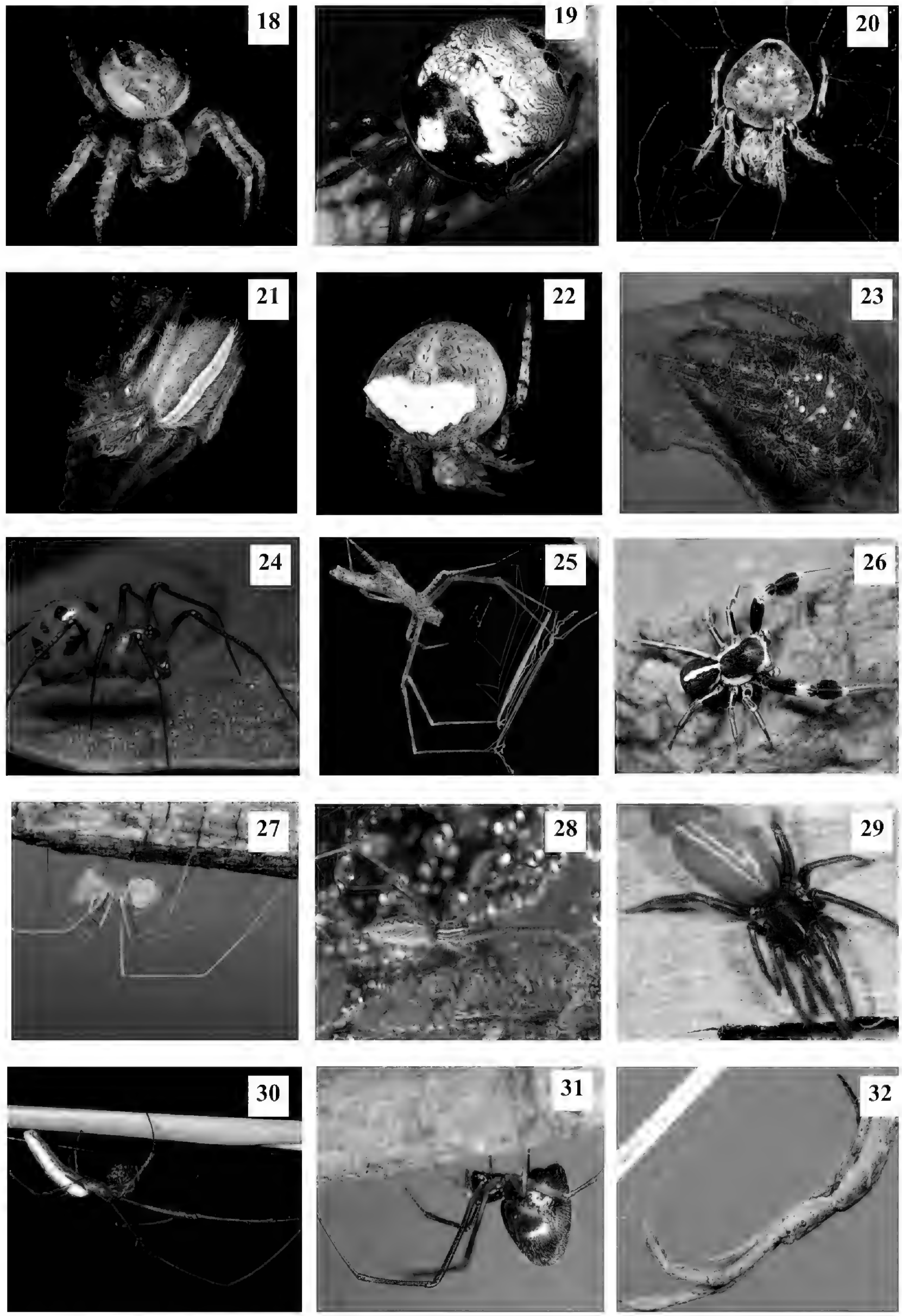
Gnaphosidae

The gnaphosids are free-living spiders and commonly found on the ground and low vegetation (Dippenaar-Schoeman 2023). The diversity of Gnaphosidae is generally higher in more arid savanna habitats in South Africa. The 18 genera and 45 species collected from the SM represent 7.7% of the SM spider fauna (Table 2). *Zelotes* Gistel, 1848 (Gnaphosidae, 14 spp.) and *Asemesthes* Simon, 1887 (Gnaphosidae, 10 spp.) are the most species-rich genera (Table 6). Eight species (17.8%) are African endemics, 23 species (51.1%) are southern African endemics, only one species, *Setaphis subtilis* (Simon, 1897), is known more widely than Africa, and 12 species (8.3%) are South African endemics. The species *Asemesthes ceresicola* Tucker, 1923 (Fig. 9) and *Ibala arcus* (Tucker, 1923) (Fig. 10) were the most abundant species and recorded from most of the localities.

Endemicity

Of the species identified at the species level, 231 (39.5%) have a wide distribution throughout Africa, 36 (6.2%) are also found in countries beyond Africa, 152 (26%) occur more widely in southern Africa, and 116 species (22.3%) are endemic to South Africa (Table 3). Of the 44 species not evaluated, 23 could not be determined to species level due to unresolved taxonomy. However, 20 spp. have already been identified as possibly new to science, which will increase the number of endemic species in the SM (Table 5). The new species represent several families poorly represented in the Limpopo Province, e.g., the Cyrtaucheniidae, Macrobunidae, Migidae, Penestomidae and Stasimopidae.

Since 1997, 66 articles containing information on species collected on the SM have been published. Of these, 50 were generic revisions for species belonging to 20 families. Taxonomic work resulted in recognising 25 species newly described from the SM since 1997 (indicated in Table 6 with an asterisk). The Limpopo Province now has 55 endemic species (Dippenaar-Schoeman et al. 2023) and 20 of these species have been recorded from the SM, with four species being endemic to the SM: *Afrarchaea entabeniensis* Lotz,



Figures 18–32. Representative web-building spiders of the Soutpansberg Mountain **18** *Araneus nigroquadratus* (Araneidae) **19** *Bijoaraneus legonensis* (Araneidae) **20** *Eriovixia excelsa* (Araneidae) **21** *Kilima decens* (Araneidae) **22** *Neoscona subfusca* (Araneidae) **23** *Pararaneus spectator* (Araneidae) **24** *Cyatholipus isolatus* (Cyatholipidae) **25** *Menneus camelus* (Deinopidae) **26** *Stegodyphus mimosarum* (Eresidae) **27** *Quamtana entabeni* (Pholcidae) **28** *Euprosthenopsis vuattouxi* (Pisauridae) **29** *Ariadna bilineata* (Segestriidae) **30** *Tetragnatha bogotensis* (Tetragnathidae) **31** *Argyrodes zonatus* (Theridiidae) **32** *Miagrammopes brevicaudus* (Uloboridae). Photos credits: **24** J. Miller; rest P. Webb.

2003 (Archaeidae, Fig. 3), *Afropesa schoutedeni* (Benoit, 1965) (Fig. 7) and *A. schwendingeri* Zonstein & Ríos-Tamayo, 2021 (Entypesidae), and *Loxosceles haddadi* Lotz, 2017 (Sicariidae). However, more data is needed for these species, as two are listed as Data Deficient.

Table 3. Endemicity of the 585 spider species sampled at the Soutpansberg Mountain (SM).

Endemicity	Spp.	%
0 – Africa and wider (C)	36	6.2
1 – African endemics (AE)	231	39.5
2 – Southern African endemics (STHE)	152	26
3 – SA endemics (SAE)	92	15.7
4 – SA (SAE): 2 adjacent provinces	10	1.7
5 – Limpopo Province endemics (LPE)	16	2.7
6 – Known only from the type locality	4	0.7
Not evaluated: new (20 spp.); undetermined (22 spp.); immature (2 spp.)	44	7.5

Table 4. Conservation status of the spider species sampled from the Soutpansberg Mountain (SM).

Conservation status	Spp.	%
Data Deficient (DD)	17	2.9
Least Concern (LC)	516	88.2
Species special concern		
Rare (RA)	5	0.9
Critical Rare (CR)	1	0.2
Vulnerable (VU)	1	0.2
Near Threatened (NT)	1	0.2
Not evaluated (NE)	44	7.5
	585	~100.00

Table 5. Species of special concern from the Soutpansberg Mountain (SM). Conservation status (CON) and Endemicity (END): CR = Critical Rare; RA = Rare; VU = Vulnerable; NT = Near Threatened; LE = Limpopo endemic; SME = Soutpansberg endemic.

Species	CON	END
Archaeidae		
Afrarchaea entabeniensis Lotz, 2003 (Fig. 3)	CR	LE (SME)
Corinnidae		
Hortipes contubernalis Bosselaers & Jocqué, 2000 (Fig. 5)	RA	LE
Cyatholipidae		
Cyatholipus isolatus Griswold, 1987 (Fig. 24)	NT	Near LE
Hersiliidae		
Tyrotama soutpansbergensis Foord & Dippenaar-Schoeman, 2005 (Fig. 11)	VU	LE
Pholcidae		
Quamtana entabeni Huber, 2003 (Fig. 27)	RA	LE
Smeringopus hanglip Huber, 2012	RA	LE
Tetragnathidae		
Diphya wesolowskae Omelko, Marusik & Lyle, 2020	RA	LE
Zodariidae		
Australutica africana Jocqué, 2008	RA	LE

Table 6. Checklist of the spider species from the Soutpansberg Mountain in Limpopo Province listing their endemicity score (END), conservation status (CS) and global distribution score (DIS). * Species described from Soutpansberg Mountain.

Family / Species	END	CS	DIS
Family Agelenidae C.L. Koch, 1837			
Agelena australis Simon, 1896	1	LC	AE
Agelena gaerdesi Roewer, 1955	2	LC	STHE
Agelena sp. 3 (undetermined)	–	NE	–
Benoitia deserticola (Simon, 1910)	2	LC	STHE
Benoitia ocellata (Pocock, 1900)	1	LC	AE
Benoitia sp. 3 (undetermined)	–	NE	–
Benoitia sp. 4 (undetermined)	–	NE	–
Mistaria zuluana (Roewer, 1955)	2	LC	STHE
Olorunia punctata Lehtinen, 1967	1	LC	AE
Family Anapidae Simon, 1895			
Crozetulus rhodesiensis Brignoli, 1981	2	LC	STHE
Family Araneidae Clerck, 1757			
Acanthepeira sp. 1 (undetermined)	–	NE	–
Arachnura scorpionoides Vinson, 1863	1	LC	AE
Araneus apricus Karsch, 1884	1	LC	AE
Araneus nigroquadratus Lawrence, 1937 (Fig. 18)	2	LC	STHE
Araneus strupifer (Simon, 1886)	1	LC	AE
Araneus sp. 4 (undetermined)	–	NE	–
Araneus sp. 5 (new)	–	NE	–
Argiope australis (Walckenaer, 1805)	1	LC	AE
Argiope lobata (Pallas, 1772)	0	LC	C
Argiope levii Bjørn, 1997	1	LC	AE
Bijoaraneus legonensis (Grasshoff & Edmunds, 1979) (Fig. 19)	1	LC	AE
Caerostris sexcuspidata (Fabricius, 1793)	1	LC	AE
Caerostris vicina (Blackwall, 1866)	1	LC	AE
Chorizopes sp. 1 (undetermined)	–	NE	–
Cyclosa insulana (Costa, 1834)	0	LC	C
Cyclosa oculata (Walckenaer, 1802)	0	LC	C
Cyphalonotus larvatus (Simon, 1881)	1	LC	AE
Cyrtophora citricola (Forsskål, 1775)	0	LC	C
Eriovixia excelsa (Simon, 1889) (Fig. 20)	0	LC	C
Gasteracantha milvoides Butler, 1873	1	LC	AE
Gasteracantha sanguinolenta C.L. Koch, 1844	1	LC	AE
Gea sp. 1 (undetermined)	–	NE	–
Hypsosinga holzapfelae (Lessert, 1936)	2	LC	STHE
Hypsosinga lithyphantoides Caporiacco, 1947	1	LC	AE
Isoxya tabulata (Thorell, 1859)	1	LC	AE
Kilima decens (Blackwall, 1866) (Fig. 21)	1	LC	AE
Nemoscolus cotti Lessert, 1933	2	LC	STHE
Nemoscolus elongatus Lawrence, 1947	3	LC	SAE
Nemoscolus tubicola (Simon, 1887)	2	LC	STHE
Nemoscolus vigintipunctatus Simon, 1897	2	LC	STHE
Neoscona blondeli (Simon, 1886)	1	LC	AE
Neoscona penicillipes (Karsch, 1879)	1	LC	AE
Neoscona quincasea Roberts, 1983	1	LC	AE
Neoscona rapta (Thorell, 1899)	1	LC	AE
Neoscona subfusca (C.L. Koch, 1837) (Fig. 22)	0	LC	C
Neoscona triangula (Keyserling, 1864)	0	LC	C
Pararaneus spectator (Karsch, 1885) (Fig. 23)	0	LC	C

Family / Species	END	CS	DIS
Pararaneus sp. 2 (immature)	–	NE	–
Prasonica albolimbata Simon, 1895	1	LC	AE
Prasonica seriata Simon, 1895	1	LC	AE
Singa albodorsata Kauri, 1950	3	LC	SAE
Singa lawrencei (Lessert, 1930)	1	LC	AE
Ursa turbinata Simon, 1895	3	LC	SAE
Trichonephila fenestrata (Thorell, 1859)	2	LC	STHE
Trichonephila senegalensis annulata (Thorell, 1859)	2	LC	STHE
Family Archaeidae C.L. Koch & Berendt, 1854			
Afrarchaea bergae Lotz, 1996 *	4	LC	SAE
Afrarchaea entabeniensis Lotz, 2003 * (Fig. 3)	6	CR	SAE
Family Barychelidae Simon, 1889			
Pisenor notius Simon, 1889	1	LC	AE
Sipalolasma humicola (Benoit, 1965)	1	LC	AE
Family Bemmeridae Simon, 1903			
Homostola pardalina (Hewitt, 1913)	3	LC	SAE
Family Caponiidae Simon, 1890			
Caponia chelifera Lessert, 1936	2	LC	STHE
Family Cheiracanthiidae Wagner, 1887			
Cheiracanthium aculeatum Simon, 1884	1	LC	AE
Cheiracanthium africanum Lessert, 1921	1	LC	AE
Cheiracanthium angolensis Lotz, 2007	2	LC	STHE
Cheiracanthium furculatum Karsch, 1879	1	LC	AE
Cheiracanthium schenkeli Caporiacco, 1949	1	LC	AE
Cheiracanthium vansoni Lawrence, 1936	1	LC	AE
Cheiramiona clavigera (Simon, 1897)	3	LC	SAE
Cheiramiona filipes (Simon, 1898)	2	LC	STHE
Cheiramiona krugerensis Lotz, 2003	3	LC	SAE
Cheiramiona lajuma Lotz, 2003 * (Fig. 4)	3	LC	SAE
Cheiramiona langi Lotz, 2003 *	2	DD	STHE
Cheiramiona mlawula Lotz, 2003	2	LC	STHE
Cheiramiona paradisus Lotz, 2003	2	LC	STHE
Cheiramiona simplicitarsis (Simon, 1910)	3	LC	SAE
Family Clubionidae Wagner, 1887			
Clubiona abbajensis Strand, 1906	1	LC	AE
Clubiona africana Lessert, 1921	1	LC	AE
Clubiona bevisi Lessert, 1923	3	LC	SAE
Clubiona durbana Roewer, 1951	3	LC	SAE
Clubiona godfreyi Lessert, 1921	1	LC	AE
Clubiona lawrencei Roewer, 1951	2	LC	STHE
Clubiona pongolensis Lawrence, 1952	3	LC	SAE
Clubiona pupillaris Lawrence, 1938	3	LC	SAE
Family Corinnidae Karsch, 1880			
Apochinomma formicaeforme Pavesi, 1881	1	LC	AE
Cambalida dippenaarae Haddad, 2012	1	LC	AE
Cambalida fulvipes (Simon, 1896)	1	LC	AE
Coenoptychus tropicalis (Haddad, 2004)	1	LC	AE
Copa flavoplumosa Simon, 1885	1	LC	AE
Corinnomma lawrencei Haddad, 2006	1	LC	AE
Corinnomma semiglabrum (Simon, 1896)	1	LC	AE
Graptartia granulosa Simon, 1896	1	LC	AE
Hortipes contubernalis Bosselaers & Jocqué, 2000 * (Fig. 5)	5	RA	SAE
Merenius simoni Lessert, 1921	1	LC	AE
Messapus natalis (Pocock, 1898)	2	LC	STHE

Family / Species	END	CS	DIS
Pronophaea natalica Simon, 1897	3	LC	SAE
Pronophaea sp. 2 (new)	–	NE	–
Vendaphaea lajuma Haddad, 2009 * (Fig. 6)	5	DD	SAE
Family Ctenidae Keyserling, 1877			
Anahita sp. 1 (undetermined)	–	NE	–
Ctenus gulosus Des Arts, 1912	2	LC	STHE
Ctenus pulchriventris (Simon, 1896)	2	LC	STHE
Ctenus transvaalensis Benoit, 1981	3	LC	SAE
Family Cyatholipidae Simon, 1894			
Cyatholipus isolatus Griswold, 1987 * (Fig. 24)	4	NT	SAE
Cyatholipus sp. 2 (new)	–	NE	–
Family Cyrtaucheniidae Simon, 1889			
Ancylotrypa brevipalpis (Hewitt, 1916)	3	LC	SAE
Ancylotrypa elongata Purcell, 1908	2	LC	STHE
Ancylotrypa nuda (Hewitt, 1916)	3	LC	SAE
Ancylotrypa sp. 4 (new)	–	NE	–
Ancylotrypa sp. 5 (new)	–	NE	–
Family Deinopidae C.L. Koch, 1850			
Asianopis cornigera (Gerstäcker, 1873)	1	LC	AE
Menneus camelus Pocock, 1902 (Fig. 25)	3	LC	SAE
Family Dictynidae O. Pickard-Cambridge, 1871			
Archaeodictyna condocta (O.Pickard-Cambridge, 1876)	0	LC	C
Dictyna sp. 1 (undetermined)	–	NE	–
Mashimo leleupi Lehtinen, 1967	1	LC	AE
Family Entypesidae Bond, Opatova & Hedin, 2020			
Afropesa schoutedeni (Benoit, 1965) * (Fig. 7)	6	LC	SAE
Afropesa schwendingeri Zonstein & Ríos-Tamayo, 2021*	6	DD	SAE
Family Eresidae C.L. Koch, 1845			
Dresserus colsoni Tucker, 1920	3	LC	SAE
Paradonea presleyi Miller, Griswold, Scharff, Rezac, Szuts & Marhabaie, 2012	2	LC	STHE
Paradonea sp. 2 (new)	–	NE	–
Seothyra fasciata Purcell, 1904	2	LC	STHE
Stegodyphus africanus (Blackwall, 1866)	1	LC	AE
Stegodyphus dumicola Pocock, 1898	2	LC	STHE
Stegodyphus mimosarum Pavesi, 1883 (Fig. 26)	1	LC	AE
Family Euagridae Raven, 1979			
Allothele malawi Coyle, 1984	1	LC	AE
Family Filistatidae Simon, 1864			
Andoharano ansieae Zonstein & Marusik, 2015	2	LC	STHE
Family Gallieniellidae Millot, 1947			
Austrachelas entabeni Haddad & Mbo, 2017 *	5	DD	SAE
Drassodella venda Mbo & Haddad, 2019 * (Fig. 8)	5	LC	SAE
Famyly Gnaphosidae Banks, 1892			
Afrodrassex balrog Haddad & Booysen, 2022	2	LC	STHE
Ammoxenus psammodromus Simon, 1910	2	LC	STHE
Aneplasa interrogationis Tucker, 1923	3	LC	SAE
Aphantaulax inornata Tucker, 1923	2	LC	STHE
Asemesthes ceresicola Tucker, 1923 (Fig. 9)	3	LC	SAE
Asemesthes flavipes Purcell, 1908	2	LC	STHE
Asemesthes fodina Tucker, 1923	2	LC	STHE
Asemesthes lineatus Purcell, 1908	1	LC	AE
Asemesthes numisma Tucker, 1923	2	LC	STHE
Asemesthes pallidus Purcell, 1908	3	LC	SAE

Family / Species	END	CS	DIS
Asemesthes paynteri Tucker, 1923	3	LC	SAE
Asemesthes purcelli Tucker, 1923	2	LC	STHE
Asemesthes reflexus Tucker, 1923	3	LC	SAE
Asemesthes sp. 10 (new)	–	NE	–
Camillina cordifera (Tullgren, 1910)	1	LC	AE
Drassodes helenae Purcell, 1907	3	LC	SAE
Drassodes solitarius Purcell, 1907	2	LC	STHE
Echemus erutus Tucker, 1923	2	LC	STHE
Ibala arcus (Tucker, 1923) (Fig. 10)	2	LC	STHE
Ibala bilinearis (Tucker, 1923)	2	LC	STHE
Ibala bulawayensis (Tucker, 1923)	2	LC	STHE
Leptodrassex murphyi Haddad & Booysen, 2022	2	LC	STHE
Megamyrmaekion transvaalense Tucker, 1923	3	LC	SAE
Nomisia varia (Tucker, 1923)	2	LC	STHE
Pterotricha auris (Tucker, 1923)	3	LC	SAE
Rastellus kariba Platnick & Griffin, 1990	2	LC	STHE
Scotophaeus marleyi Tucker, 1923	3	LC	SAE
Setaphis subtilis (Simon, 1897)	0	LC	C
Xerophaeus appendiculatus Purcell, 1907	3	LC	SAE
Xerophaeus aurariarum Purcell, 1907	2	LC	STHE
Xerophaeus bicavus Tucker, 1923	3	LC	SAE
Zelotes aestus (Tucker, 1923)	2	LC	STHE
Zelotes aridus (Purcell, 1907)	1	LC	AE
Zelotes caldarius (Purcell, 1907)	2	LC	STHE
Zelotes chinguli Fitzpatrick, 2007	2	LC	STHE
Zelotes corrugatus (Purcell, 1907)	1	LC	AE
Zelotes fuligineus (Purcell, 1907)	1	LC	AE
Zelotes haplodrassoides (Denis, 1955)	1	LC	AE
Zelotes humilis (Purcell, 1907)	2	LC	STHE
Zelotes namaquus FitzPatrick, 2007	3	LC	SAE
Zelotes natalensis Tucker, 1923	2	LC	STHE
Zelotes otavi Fitzpatrick, 2007	2	LC	STHE
Zelotes radiatus Lawrence, 1928	2	LC	STHE
Zelotes scrutatus (O.P.-Cambridge, 1872)	1	LC	AE
Zelotes tuckeri Roewer, 1951	1	LC	AE
Family Hahniidae Bertkau, 1878			
Hahnia tabulicola Simon, 1898	1	LC	AE
Family Hersiliidae Thorell, 1869			
Hersilia sagitta Foord & Dippenaar-Schoeman, 2006	1	LC	AE
Hersilia sericea Pocock, 1899	2	LC	AE
Hersilia setifrons Lawrence, 1928	2	LC	STHE
Tyrotama soutpansbergensis Foord & Dippenaar-Schoeman, 2005 * (Fig. 11)	5	VU	SAE
Family Idiopidae Simon, 1889			
Ctenolophus fenoulheti Hewitt, 1913	3	LC	SAE
Galeosoma vandami Hewitt, 1913	5	LC	SAE
Idiops castaneus Hewitt, 1913	4	LC	SAE
Segregara paucispinulosus (Hewitt, 1915)	5	LC	SAE
Family Linyphiidae Blackwall, 1859			
Agyneta habra (Locket, 1968)	1	LC	AE
Agyneta natalensis (Jocqué, 1984)	3	LC	SAE
Agyneta prosectoides (Locket & Russell-Smith, 1980)	1	LC	AE
Mecynidis dentipalpis Simon, 1894	2	LC	STHE
Metaleptyphantes perexiguus (Simon & Fage, 1922)	1	LC	AE

Family / Species	END	CS	DIS
Microlinyphia sterilis (Pavesi, 1883)	1	LC	AE
Neriene natalensis Van Helsdingen, 1969	3	LC	SAE
Family Liocranidae Simon, 1897			
Rhaeboctesis exilis Tucker, 1920	3	LC	SAE
Rhaeboctesis trinotatus Tucker, 1920	2	LC	STHE
Family Lycosidae Sundevall, 1833			
Allocosa exserta Roewer, 1959	2	LC	STHE
Allocosa lawrencei (Roewer, 1951)	2	LC	STHE
Allocosa testacea Roewer, 1959	3	DD	SAE
Evippomma squamulatum (Simon, 1898) (Fig. 12)	2	LC	STHE
Foveosa foveolata (Purcell, 1903)	1	LC	AE
Hippasa elienae Alderweireldt & Jocqué, 2005	1	LC	AE
Hippasa funerea Lessert, 1925	2	LC	STHE
Hippasosa guttata (Karsch, 1878)	1	LC	AE
Hogna spenceri (Pocock, 1898)	1	LC	AE
Minicosa neptuna Alderweireldt & Jocqué, 2006	3	LC	STHE
Pardosa crassipalpis Purcell, 1903	2	LC	STHE
Pardosa leipoldti Purcell, 1903	2	LC	STHE
Pardosa umtalica Purcell, 1903	1	LC	AE
Proevippa albiventris (Simon, 1898)	2	LC	STHE
Proevippa fascicularis (Purcell, 1903)	2	LC	STHE
Proevippa wanlessi (Russell-Smith, 1981)	3	LC	SAE
Trabea heteroculata Strand, 1913	1	LC	AE
Trabea purcelli Roewer, 1951	1	LC	AE
Zenonina albocaudata Lawrence, 1952	3	LC	SAE
Lycosidae sp. 1 (undetermined)	–	NE	–
Family Macrobunidae Bonnet, 1957			
Chresiona invalida (Simon, 1898)	3	LC	SAE
Pseudauximus annulatus Purcell, 1908	4	DD	SAE
New genus (new species)	–	NE	–
Family Migidae Simon, 1889			
Moggridgea pymi Hewitt, 1914	2	LC	STHE
Poecilomigas sp. 1 (new)	–	NE	–
Family Mimetidae Simon, 1881			
Anansi natalensis (Lawrence, 1938)	3	LC	SAE
Ero lawrencei Unzicker, 1966	2	LC	STHE
Mimetus cornutus Lawrence, 1947	2	LC	STHE
Family Nesticidae Simon, 1894			
Nesticella benoiti (Hubert, 1970)	2	LC	STHE
Family Oecobiidae Blackwall, 1862			
Oecobius navus Blackwall, 1859	0	LC	C
Uroecobius ecribellatus Kullmann & Zimmermann, 1976	3	LC	SAE
Family Oonopidae Simon, 1890			
Gamasomorpha australis Hewitt, 1915	3	LC	SAE
Gamasomorpha humicola Lawrence, 1947	3	LC	SAE
Opopaea speciosa (Lawrence, 1952)	1	LC	AE
Orchestina fannesi Henrad & Jocqué 2012	2	LC	STHE
Family Orsolobidae Cooke, 1965			
Afrilobus sp. 1 (new)	–	NE	–
Azanialobus lawrencei Griswold & Platnick, 1987	2	LC	STHE
Family Oxyopidae Thorell, 1869			
Hamataliwa fronticornis (Lessert, 1927)	1	LC	AE
Hamataliwa kulczynskii (Lessert, 1915)	1	LC	AE
Hamataliwa rostrifrons (Lawrence, 1928)	2	LC	STHE

Family / Species	END	CS	DIS
Hamataliwa rufocaligata Simon, 1898	1	LC	AE
Hamataliwa strandi (Lessert, 1923)	2	LC	STHE
Oxyopes angulitarsus Lessert, 1915	1	LC	AE
Oxyopes bedoti Lessert, 1915	1	LC	AE
Oxyopes bonneti Lessert, 1933	2	LC	STHE
Oxyopes bothai Lessert, 1915 (Fig. 12)	1	LC	AE
Oxyopes dumonti (Vinson, 1863)	1	LC	AE
Oxyopes falconeri Lessert, 1915	1	LC	AE
Oxyopes flavipalpis (Lucas, 1858)	1	LC	AE
Oxyopes hoggi Lessert, 1915	1	LC	AE
Oxyopes jacksoni Lessert, 1915	1	LC	AE
Oxyopes longispinosus Lawrence, 1938	3	LC	SAE
Oxyopes pallidecoloratus Strand, 1906	1	LC	AE
Oxyopes russoi Caporiacco, 1940	1	LC	AE
Oxyopes schenkeli Lessert, 1917	1	LC	AE
Oxyopes singularis Lessert, 1927	1	LC	AE
Peucetia crucifera Lawrence, 1927	2	LC	STHE
Peucetia viridis (Blackwall, 1858)	1	LC	AE
Family Palpimanidae Thorell, 1870			
Diaphorocellus biplagiatus Simon, 1893	2	LC	STHE
Palpimanus armatus Pocock, 1898	2	LC	STHE
Palpimanus potteri Lawrence, 1937	3	LC	SAE
Palpimanus pseudarmatus Lawrence, 1952	3	LC	SAE
Palpimanus transvaalicus Simon, 1893	3	LC	SAE
Family Penestomidae Simon, 1903			
Penestomus sp. 1 (new)	–	NE	–
Family Philodromidae Thorell, 1869			
Hirriusa arenacea (Lawrence, 1927)	2	LC	STHE
Hirriusa bidentata (Lawrence, 1927)	2	LC	STHE
Hirriusa variegata (Simon, 1895)	3	LC	SAE
Philodromus brachycephalus Lawrence, 1952	1	LC	AE
Philodromus browningi Lawrence, 1952	2	LC	STHE
Philodromus grosi Lessert, 1943	1	LC	AE
Philodromus guineensis Millot, 1941	1	LC	AE
Philodromus sp. 5 (undetermined)	–	NE	–
Suemus punctatus Lawrence, 1938	2	LC	STHE
Thanatus dorsilineatus Jézéquel, 1964	1	LC	AE
Thanatus vulgaris Simon, 1870	0	LC	C
Tibellus australis (Simon, 1910)	2	LC	STHE
Tibellus bruneitarsis Lawrence, 1952	2	LC	STHE
Tibellus minor Lessert, 1919	1	LC	AE
Tibellus sunetae Van den Berg & Dippenaar-Schoeman, 1994	2	LC	STHE
New genus (new species)	–	NE	–
Family Pholcidae C. L. Koch, 1850			
Leptopholcus gracilis Berland, 1920	1	LC	AE
Quamtana bonamanzi Huber, 2003	3	LC	SAE
Quamtana entabeni Huber, 2003 * (Fig. 27)	5	RA	SAE
Quamtana hectori Huber, 2003	3	LC	SAE
Quamtana lajuma Huber, 2003 *	5	DD	SAE
Smeringopus hanglip Huber, 2012*	5	RA	SAE
Smeringopus natalensis Lawrence, 1947	2	LC	STHE
Family Phyxelididae Lehtinen, 1967			
Phyxelida makapanensis Simon, 1894	3	LC	SAE
Vidole sothoana Griswold, 1990	2	LC	STHE

Family / Species	END	CS	DIS
Xevioso kulufa Griswold, 1990 *	3	LC	SAE
Family Pisauridae Simon, 1890			
Afropisaura rothiformis (Strand, 1908)	1	LC	AE
Charminus ambiguus (Lessert, 1925)	1	LC	AE
Chiasmopes lineatus (Pocock, 1898)	1	LC	AE
Cispius problematicus Blandin, 1978	1	LC	AE
Euprosthenops bayaonianus Brito Capello 1867	1	LC	AE
Euprosthenopsis pulchella (Pocock, 1902)	2	LC	STHE
Euprosthenopsis vuattouxi Blandin, 1977 (Fig. 28)	1	LC	AE
Maypacius roeweri Blandin, 1975	1	LC	AE
Nilus margaritatus (Pocock, 1898)	1	LC	AE
Nilus massajae (Pavesi, 1883) (Fig. 13)	1	LC	AE
Rothus aethiopicus (Pavesi, 1883)	1	LC	AE
Family Prodidomidae Simon, 1884			
Austrodomus scaber (Purcell, 1904)	2	LC	STHE
Eleleis limpopo Rodrigues & Rheims, 2020	1	LC	AE
Prodidomus capensis Purcell, 1904	3	LC	SAE
Theuma elucubata Tucker, 1923	3	LC	SAE
Theuma fusca Purcell, 1907	2	LC	STHE
Theuma purcelli Tucker, 1923	3	LC	SAE
Theuma maculata Purcell, 1907	2	LC	STHE
Family Salticidae Blackwall, 1841			
Afraflacilla altera (Wesołowska, 2000)	2	LC	STHE
Afraflacilla elegans (Wesołowska & Cumming, 2008)	2	LC	STHE
Asemonea clara Wesołowska & Haddad, 2013	3	LC	SAE
Baryphas ahenus Simon, 1902	1	LC	AE
Belippo meridionalis Wesołowska & Haddad, 2013	3	LC	SAE
Bianor albobimaculatus (Lucas, 1846)	0	LC	C
Cyrba lineata Wanless, 1984	2	LC	STHE
Cyrba nigrimana Simon, 1900	3	LC	SAE
Dendryphantes hararensis Wesołowska & Cumming, 2008	2	LC	STHE
Evarcha flagellaris Haddad & Wesołowska, 2011	1	LC	AE
Evarcha ignea Wesołowska & Cumming, 2008	1	LC	AE
Evarcha prosimilis Wesołowska & Cumming, 2008	1	LC	AE
Evarcha werneri (Simon, 1906)	1	LC	AE
Festucula leroyae Azarkina & Foord, 2014	2	LC	STHE
Goleba puella (Simon, 1885)	1	LC	AE
Habrocestum auricomum Haddad & Wesołowska, 2013	5	DD	SAE
Habrocestum superbum Wesolowska, 2000	2	LC	STHE
Helafricanus debilis (Simon, 1901)	1	LC	AE
Helafricanus pistaciae (Wesołowska, 2003)	2	LC	STHE
Helafricanus trepidus Simon, 1910	2	LC	STHE
Holcolaetis zuluensis Lawrence, 1937	1	LC	AE
Hyllus argyrotoxus Simon, 1902 (Fig. 18)	1	LC	AE
Hyllus brevitarsis Simon, 1902 (Fig. 17)	1	LC	AE
Hyllus dotatus (Peckham & Peckham, 1903)	1	LC	AE
Hyllus treleaveni Peckham & Peckham, 1903	1	LC	AE
Iranattus principalis Wesołowska, 2000	1	LC	AE
Icius insolidus (Wesołowska, 1999)	2	LC	STHE
Langelurillus minutus Wesołowska & Cumming, 2011	2	LC	STHE
Langelurillus sp. 1 (new)	–	NE	–
Langona bethae Wesołowska & Cumming, 2011	2	LC	STHE
Langona bisecta Lawrence, 1927	2	LC	STHE
Langona tortuosa Wesołowska, 2011	2	LC	STHE

Family / Species	END	CS	DIS
Massagris sp. 1 (undetermined)	–	NE	–
Menemerus minshullae Wesołowska, 1999	1	LC	AE
Menemerus natalis Wesołowska, 1999	3	LC	SAE
Menemerus zimbabwensis Wesołowska, 1999	2	LC	STHE
Mexcala quadrimaculata (Lawrence, 1942)	2	LC	STHE
Mogrus mathisi (Berland & Millot, 1941)	0	LC	C
Myrmarachne ichneumon (Simon, 1886)	1	LC	AE
Myrmarachne inflatipalpis Wanless, 1978	1	LC	AE
Myrmarachne lulengana Roewer, 1965	1	LC	AE
Myrmarachne marshalli Peckham & Peckham, 1903	1	LC	AE
Natta horizontalis Karsch, 1879	1	LC	AE
Nigorella hirsuta Wesołowska, 2009	2	LC	STHE
Pachyballus transversus Simon, 1900	1	LC	AE
Parajotus obscurofemoratus Peckham & Peckham, 1903	3	LC	SAE
Parajotus refulgens Wesołowska, 2000	1	LC	AE
Pellenes bulawayoensis Wesołowska, 2000	2	LC	STHE
Pellenes modicus Wesołowska & Russell-Smith, 2000	1	LC	AE
Pellenes pulcher Logunov, 1995	0	LC	C
Pellenes tharinae Wesołowska, 2006	2	LC	STHE
Phintella aequipes (Peckham & Peckham, 1903)	1	LC	AE
Phintella australis (Simon, 1902)	3	LC	SAE
Phintella lajuma Haddad & Wesołowska, 2013 * (Fig. 14)	3	LC	SAE
Phlegra simplex Wesołowska & Russell-Smith, 2000	1	LC	AE
Phlegra varia Wesołowska & Russell-Smith, 2000	1	LC	AE
Pignus simoni (Peckham & Peckham, 1903)	2	LC	STHE
Portia schultzi Karsch, 1878	1	LC	AE
Pseudicius sp. 1 (undetermined)	–	NE	–
Rhene machadoi Berland & Millot, 1941	1	LC	AE
Rumburak tuberatus Wesołowska, Azarkina & Russell-Smith, 2014 * (Fig. 15)	5	DD	SAE
Sonoita lightfooti Peckham & Peckham, 1903	1	LC	AE
Stenaelurillus guttiger (Simon, 1901)	2	LC	STHE
Stenaelurillus termitophagus (Wesołowska & Cumming, 1999)	2	LC	STHE
Tanzania parvulus Wesołowska, Azarkina & Russell-Smith, 2014	3	LC	SAE
Thyene bilineata Lawrence, 1927	2	LC	STHE
Thyene bucculenta (Gerstäcker, 1873)	1	LC	AE
Thyene coccineovittata (Simon, 1886)	1	LC	AE
Thyene dakarensis (Berland & Millot, 1941)	1	LC	AE
Thyene inflata (Gerstäcker, 1873)	1	LC	AE
Thyene leighi Peckham & Peckham, 1903	1	LC	AE
Thyene muticus (Simon, 1902)	1	LC	AE
Thyene natalii Peckham & Peckham, 1903	1	LC	AE
Thyene ogdeni Peckham & Peckham, 1903	1	LC	AE
Thyene semiargentea (Simon, 1884)	1	LC	AE
Thyene thyenioides (Lessert, 1925)	1	LC	AE
Thyenula aurantiaca (Simon, 1902)	2	LC	STHE
Thyenula oranjensis Wesołowska, 2001	3	LC	SAE
Thyenula sempiterna Wesołowska, 2000	2	LC	STHE
Thyenula wesolowskae Zhang & Maddison, 2012	4	LC	SAE
Tomomingi szutsi Wesołowska & Haddad, 2013 *	4	DD	SAE
Trapezocephalus lesserti (Wesołowska, 1986)	1	LC	AE
Trapezocephalus orchesta (Simon, 1885)	1	LC	AE
Tusitala barbata Peckham & Peckham, 1902	1	LC	AE
Tusitala hirsuta Peckham & Peckham, 1902	1	LC	AE

Family / Species	END	CS	DIS
Family Scytodidae Blackwall, 1864			
Scytodes clavata Benoit, 1965	1	LC	AE
Scytodes maritima Lawrence, 1938	3	LC	SAE
Scytodes quinqua Lawrence, 1927	2	LC	STHE
Scytodes thoracica (Latreille, 1802)	0	LC	C
Family Segestriidae Simon, 1893			
Ariadna bilineata Purcell, 1904 (Fig. 29)	3	LC	SAE
Family Selenopidae Simon, 1897			
Anyphops barbertonensis (Lawrence,1940)	1	LC	AE
Anyphops leleupi Benoit, 1972	4	LC	SAE
Anyphops ngome Corronca, 2005	3	LC	SAE
Anyphops reservatus (Lawrence, 1937)	3	LC	SAE
Anyphops spenceri (Pocock, 1896)	3	LC	SAE
Selenops brachycephalus Lawrence, 1940	2	LC	STHE
Selenops dilon Corronca, 2002	4	DD	SAE
Selenops tenebrosus Lawrence, 1940	2	LC	STHE
Selenops zuluanus Lawrence, 1940	2	LC	STHE
Family Sicariidae Keyserling, 1880			
Hexophthalma hahni (Karsch, 1878)	2	LC	STHE
Loxosceles haddadi Lotz, 2017 *	6	DD	SAE
Loxosceles simillima Lawrence, 1927	1	LC	AE
Family Sparassidae Bertkau, 1872			
Eusparassus borakalalo Moradmand, 2013	4	LC	SAE
Olios correvoni nigrifrons Lawrence, 1928	1	LC	AE
Olios sjostedti Lessert, 1921	1	LC	AE
Olios sp. 3 (undetermined)	–	NE	–
Palystes leroyorum Croeser, 1996	3	LC	SAE
Palystes superciliosus L. Koch, 1875	2	LC	STHE
Pseudomicrommata longipes (Bösenberg & Lenz, 1895)	1	LC	AE
Pseudomicrommata vittigera (Simon, 1897)	2	LC	STHE
Family Stasimopidae Bond, Opatova & Hedin, 2020			
Stasimopus sp. 1 (new)	–	NE	–
Family Tetragnathidae Menge, 186			
Diphya foordi Omelko, Marusik & Lyle, 2020 *	3	LC	SAE
Diphya wesolowskae Omelko, Marusik & Lyle, 2020 *	3	RA	SAE
Leucauge argyrescens Benoit, 1978	1	LC	AE
Leucauge decorata (Blackwall, 1864)	0	LC	C
Leucauge festiva (Blackwall, 1866)	1	LC	AE
Leucauge levanderi (Kulczynski, 1901)	1	LC	AE
Leucauge medjensis Lessert, 1930	1	LC	AE
Leucauge thomeensis Kraus, 1960	1	LC	AE
Meta meruensis Tullgren, 1910	1	LC	AE
Pachygnatha leleupi Lawrence, 1952	1	LC	AE
Tetragnatha bogotensis Keyserling, 1865 (Fig. 30)	0	LC	C
Tetragnatha keyserlingi Simon, 1890	0	LC	C
Tetragnatha nitens (Audouin, 1826)	0	LC	C
Tetragnatha subsquamata Okuma, 1985	1	LC	AE
Family Theraphosidae Thorell, 1869			
Augacephalus junodi (Simon, 1904)	2	LC	STHE
Ceratogyrus brachycephalus Hewitt, 1919	4	DD	SAE
Ceratogyrus darlingi Pocock, 1897	2	LC	STHE
Harpactirella overdijki Gallon, 2010	3	DD	SAE
Idiothele nigrofulva (Pocock, 1898)	2	LC	STHE
Pterinochilus lugardi Pocock, 1900	1	LC	AE

Family / Species	END	CS	DIS
Family Theridiidae Sundevall, 1833			
Anelosimus nelsoni Agnarsson, 2006	3	LC	SAE
Argyrodes convivans Lawrence, 1937	2	LC	STHE
Argyrodes zonatus (Walckenaer, 1841) (Fig. 31)	1	LC	AE
Chorizopella tragardhi Lawrence, 1947	3	LC	SAE
Chrysso sp. 1 (undetermined)	–	NE	–
Coleosoma cf blandum O.P.-Cambridge, 1882	–	NE	–
Coscinida tibialis Simon, 1895	0	LC	C
Dipoena sp. 1 (undetermined)	–	NE	–
Episinus bilineatus Simon, 1894	2	LC	STHE
Episinus marignaci (Lessert, 1933)	2	LC	STHE
Euryopis episinoides (Walckenaer, 1847)	0	LC	C
Euryopis funebris (Hentz, 1850)	0	LC	C
Latrodectus geometricus C.L. Koch, 1841	0	LC	C
Latrodectus renivulvatus Dahl, 1902	1	LC	AE
Phoroncidia eburnea (Simon, 1895)	3	LC	SAE
Phycosoma martinae (Roberts, 1983)	0	LC	C
Platnickina adamsoni (Berland, 1934)	0	LC	C
Rhomphaea nasica (Simon, 1873)	0	LC	C
Ruborridion sp. 1 (undetermined)	–	NE	–
Steatoda capensis Hann, 1990	0	LC	C
Steatoda grossa (C.L. Koch, 1838)	1	LC	C
Theridion pictum (Walckenaer, 1802)	0	LC	C
Theridion purcelli O.P.-Cambridge, 1904	3	LC	SAE
Theridion sp. 1 (undetermined)	–	NE	–
Theridion sp. 2 (undetermined)	–	NE	–
Thymoites sp. 1 (undetermined)	–	NE	–
Thwaitesia sp. 1 (undetermined)	–	NE	–
Tidarren scenicum (Thorell, 1899)	1	LC	AE
Family Thomisidae Sundevall, 1833			
Ansiae tuckeri (Lessert, 1919)	1	LC	AE
Borboropactus silvicola (Lawrence, 1938)	3	LC	SAE
Camaricus nigrotesselatus Simon, 1895	1	LC	AE
Diaea puncta Karsch, 1884	1	LC	AE
Geraesta congoensis (Lessert, 1943)	1	LC	AE
Heriaeus crassispinus Lawrence, 1942 (Fig. 16)	1	LC	AE
Heriaeus peterwebbi Van Niekerk & Dippenaar-Schoeman, 2013	2	LC	STHE
Misumenops rubrodecoratus Millot, 1942	1	LC	AE
Monaeses austrinus Simon, 1910	1	LC	AE
Mystaria flavogutatta (Lawrence, 1952)	1	LC	AE
Mystaria lata (Lawrence, 1927)	2	LC	STHE
Mystaria rufolimbata Simon, 1895	1	LC	AE
Mystaria savannensis Lewis & Dippenaar-Schoeman, 2014	1	LC	AE
Oxytate argenteooculata (Simon, 1886)	1	LC	AE
Oxytate concolor (Caporiacco, 1947)	1	LC	AE
Oxytate ribes (Jézéquel, 1964)	1	LC	AE
Ozyptila caenosa Jézéquel, 1966	1	LC	AE
Pactactes compactus Lawrence, 1947	3	LC	SAE
Parabomis martini Lessert, 1919	1	LC	AE
Pherecydes ionae Dippenaar-Schoeman, 1980	1	LC	AE
Pherecydes lucinae Dippenaar-Schoeman, 1980	3	LC	SAE
Pherecydes nicolaasi Dippenaar-Schoeman, 1980	3	LC	SAE
Pherecydes zebra Lawrence, 1927	1	LC	AE
Runcinia aethiops (Simon, 1901)	1	LC	AE

Family / Species	END	CS	DIS
Runcinia flavida (Simon, 1881)	0	LC	C
Simorcus cotti Lessert, 1936	1	LC	AE
Sylligma ndumi Honiball & Dippenaar-Schoeman 2011	2	LC	STHE
Synema decens (Karsch, 1878)	2	LC	STHE
Synema diana (Audouin, 1826)	1	LC	AE
Synema imitatrix (Pavesi, 1883)	1	LC	AE
Synema langheldi Dahl, 1907	1	LC	AE
Synema nigrotibiale Lessert, 1919	1	LC	AE
Synema vallotoni Lessert, 1923	2	LC	STHE
Thomisops bullatus Simon, 1895	2	LC	STHE
Thomisops pupa Karsch, 1879	1	LC	AE
Thomisus australis Comellini, 1957	1	LC	AE
Thomisus citrinellus Simon, 1875	0	LC	C
Thomisus congoensis Comellini, 1957	1	LC	AE
Thomisus dalmasi Lessert, 1919	1	LC	AE
Thomisus daradioides Simon, 1890	0	LC	C
Thomisus granulatus Karsch, 1880	1	LC	AE
Thomisus kalaharinus Lawrence, 1936	1	LC	AE
Thomisus scrupeus (Simon, 1886)	1	LC	AE
Thomisus spiculosus Pocock, 1901	1	LC	AE
Tmarus africanus Lessert, 1919	1	LC	AE
Tmarus cameliformis Millot, 1942	1	LC	AE
Tmarus comellinii Garcia-Neto, 1989	1	LC	AE
Tmarus foliatus Lessert, 1928	1	LC	AE
Tmarus planetarius Simon, 1903	1	LC	AE
Xysticus natalensis Lawrence, 1938	2	LC	STHE
Synema decens (Karsch, 1878)	2	LC	STHE
Synema diana (Audouin, 1826)	1	LC	AE
Synema imitatrix (Pavesi, 1883)	1	LC	AE
Synema langheldi Dahl, 1907	1	LC	AE
Synema nigrotibiale Lessert, 1919	1	LC	AE
Synema vallotoni Lessert, 1923	2	LC	STHE
Thomisops bullatus Simon, 1895	2	LC	STHE
Thomisops pupa Karsch, 1879	1	LC	AE
Thomisus australis Comellini, 1957	1	LC	AE
Thomisus citrinellus Simon, 1875	0	LC	C
Thomisus congoensis Comellini, 1957	1	LC	AE
Thomisus dalmasi Lessert, 1919	1	LC	AE
Thomisus daradioides Simon, 1890	0	LC	C
Thomisus granulatus Karsch, 1880	1	LC	AE
Thomisus kalaharinus Lawrence, 1936	1	LC	AE
Thomisus scrupeus (Simon, 1886)	1	LC	AE
Thomisus spiculosus Pocock, 1901	1	LC	AE
Tmarus africanus Lessert, 1919	1	LC	AE
Tmarus cameliformis Millot, 1942	1	LC	AE
Tmarus comellinii Garcia-Neto, 1989	1	LC	AE
Tmarus foliatus Lessert, 1928	1	LC	AE
Tmarus planetarius Simon, 1903	1	LC	AE
Xysticus natalensis Lawrence, 1938	2	LC	STHE
Xysticus urbensis Lawrence, 1952	2	LC	STHE
Tmarus africanus Lessert, 1919	1	LC	AE
Tmarus cameliformis Millot, 1942	1	LC	AE
Tmarus comellinii Garcia-Neto, 1989	1	LC	AE
Tmarus foliatus Lessert, 1928	1	LC	AE
Tmarus planetarius Simon, 1903	1	LC	AE

Family / Species	END	CS	DIS
Xysticus natalensis Lawrence, 1938	2	LC	STHE
Xysticus urbensis Lawrence, 1952	2	LC	STHE
Family Trachelidae Simon, 1897			
Afroceto martini (Simon, 1897)	2	LC	STHE
Coronarachne unigena Haddad & Lyle, 2024 *	3	LC	SAE
Falcaranea maputensis Haddad & Lyle, 2024	2	LC	STHE
Fuchiba aquilonia Haddad & Lyle, 2008 *	2	LC	STHE
Fuchibotulus kigelia Haddad & Lyle, 2008	2	LC	STHE
Jocquestus incurvus Lyle & Haddad, 2018 *	4	LC	SAE
Orthobula radiata Simon, 1897	1	LC	AE
Patelloceto secutor Lyle & Haddad, 2010	2	LC	STHE
Thysanina serica Simon, 1910	2	LC	STHE
Thysanina transversa Lyle & Haddad, 2006 *	3	LC	SAE
Trachelas scopulifer Simon, 1896	3	DD	SAE
Trachelas sp. 1 (new)	–	NE	–
Trachelas sp. 2 (new)	–	NE	–
Trachelas sp. 3 (new)	–	NE	–
Family Trochanteriidae Karsch, 1879			
Platyoides alpha Lawrence, 1928	2	LC	STHE
Platyoides pusillus Pocock, 1898	1	LC	AE
Platyoides walteri (Karsch, 1886)	1	LC	AE
Family Uloboridae Thorell, 1869			
Hyptiotes akermani Wiehle, 1964	3	LC	SAE
Miagrammopes brevicaudus O.P.-Cambridge, 1882 (Fig. 32)	2	LC	STHE
Miagrammopes constrictus Purcell, 1904	3	LC	SAE
Uloborus plumipes Lucas, 1846	0	LC	C
Zosis geniculata (Olivier, 1789)	1	LC	AE
Family Zodariidae Thorell, 1881			
Australutica africana Jocqué, 2008 *	5	RA	SAE
Ballomma neethlingi Jocqué & Henrard, 2015 *	5	DD	SAE
Caesetius bevisi (Hewitt, 1916)	2	LC	STHE
Caesetius globicoxis (Lawrence, 1942)	3	LC	SAE
Caesetius inflatus Jocqué, 1991	1	LC	AE
Capheris crassimana (Simon, 1887)	2	LC	STHE
Capheris decorata Simon, 1904	1	LC	AE
Chariobas cylindraceus Simon, 1893	1	LC	AE
Cydrela schoemanae Jocqué, 1991 (Fig. 17)	3	LC	SAE
Cydrela spinifrons Hewitt, 1915	3	LC	SAE
Cydrela spinimana Pocock, 1898	3	LC	SAE
Cydrela sp. 4 (new)	–	NE	–
Cyrioctea marken Platnick & Jocqué, 1992	5	DD	SAE
Diores auricula Tucker, 1920	2	LC	STHE
Diores lesserti Lawrence, 1952	3	LC	STHE
Diores magicus Jocqué & Dippenaar-Schoeman, 1992	2	LC	STHE
Diores recurvatus Jocqué, 1990	2	LC	STHE
Diores triarmatus Lessert, 1929	1	LC	AE
Heradida bicincta Simon, 1910	2	LC	STHE
Mastidiores sp. 1 (undetermined)	–	NE	–
Microdiores sp. 1 (undetermined)	–	NE	–
Psammorygma aculeatum (Karsch, 1878)	3	LC	SAE
Ranops robinae Jocqué & Henrard, 2020	3	LC	SAE
Systenoplacis fagei (Lawrence, 1936)	3	LC	SAE
Thaumastochilus sp. 1 (immature)	–	NE	–
Family Zoropsidae Bertkau, 1882			
Griswoldia leleupi (Griswold, 1991)	5	LC	SAE

Conservation status

Most species (516 spp., 88.2%) have a wide distribution without known threats and are listed as Least Concern (Table 4). Sufficient data is still lacking for 17 spp. (2.9%), which are listed as Data Deficient. Forty-four species (7.5%) were not evaluated because they were either new or current taxonomic support was lacking (Table 6).

Species of special concern

The spider fauna of the SM has eight species listed as being of special concern (Table 4), which include the following: Rare (5 spp.), Critically Rare (1 sp.), Vulnerable (1 sp.) or Near Threatened (1 sp.) (Table 5). IUCN uses the term “rare” as a designation for species found in isolated geographical locations. Rare species are generally considered threatened because a small population size is less likely to recover from ecological disasters. All these species require further collection and monitoring to improve our knowledge of their distribution. This can only be achieved through a concerted collecting effort in under-sampled areas and developing taxonomic expertise dedicated to revising and describing the fauna (Dippenaar-Schoeman et al. 2023).

Conclusion

The last decade has seen exponential growth in the knowledge of spiders in South Africa, but several more species are to be discovered, and distribution patterns determined. The first checklist (Foord et al. 2002) was published more than two decades ago and listed 127 species from the SM, but the number has since increased to 585 species with the publication of this checklist. Owen (2010) has stressed the importance of continued long-term monitoring when assessing the diversity, particularly for invertebrates whose populations show major inter-seasonal and inter-annual fluctuations. The SM represents an old and climatically stable geographic feature in Limpopo Province, which provides refuge for 585 spider species. The species collected represent 25.4% of the total spider fauna of South Africa and 64.3% of the Limpopo Province fauna. Conservation biologists must prioritise their efforts, limited funds, manpower, and time, and this necessitates the identification of hotspots for conservation (Myers et al. 2000). The spider data emphasises the significance of the SM as a biodiversity hotspot with high spider endemism in the Limpopo Province. Eight species are of special concern that need to be monitored in the future. The broad range of ecological studies in the SM that have included spiders as indicator taxa not only elucidates the impacts of various anthropogenic factors on their faunistic composition but has also provided invaluable material to better understand the distribution patterns of the fauna. However, there is still a considerable taxonomic deficit for many groups, and resolving this shortfall is essential to better conserve the unique taxa occurring in the SM. Mapping patterns of endemism, rarity and threats across the landscape is the starting point for such a process, while Red List assessments provide the framework for evaluating these criteria at the species level, linking them to extinction risk and guiding conservation initiatives. This will require investment in capacity building through postgraduate student

development, sourcing targeted funding from the government and the private sector, attracting international researchers to work on the South African spider fauna, promoting the importance of natural history collections to society, and by improving financial support to ensure their long-term use and development.

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Additional information

Conflict of interest

The authors have declared that no competing interests exist.

Ethical statement

No ethical statement was reported.

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Author contributions

ASD conceptualised, identified material, managed the database and wrote the first draft; CM collected and curated data and comments on drafts of the manuscript; CS was involved in specimen sampling and commented on drafts of the manuscript; NH assisted with the planning and layout of the transect and specimen sampling, prepared the map, and commented on the manuscript drafts; SF was the manager of all the surveys.

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Data availability

All data supporting this study's findings are available in the SANSA database.

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